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EXAMINER

YEH, EUENG NAN

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/783,743	<b>Applicant(s)</b> AOKI ET AL.	
	<b>Examiner</b> EUENG-NAN YEH	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 7, 14, 21, 22 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13, 15-20, 23-30, 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 29, 2008 has been entered.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 25-30 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) and recent Federal Circuit decisions (*In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008) ) indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be

Art Unit: 2624

performed, the claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be "tied" to another statutory category, the structure associated with another statutory category must be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly. For example method claim 25 performs the steps comprising: receiving reproduction condition, determining reconfiguration method, reconfiguring encoded data, and reproducing moving image, wherein none of above steps positively "tied" to another statutory category. Secondly, a qualifying transformation is NOT recited for at least the reason that the data is not claimed as representing a physical object or substance. Furthermore, there is no external depiction of the transformed/modified data, such as but not limited to a visual display.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2624

4. Claims 1-6, 8-13, 15-20, 23-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Sano et al. (US 2003/0068089 A1) and Igarashi et al. (US 6,484,195 B1).

Regarding claim 1, Sano discloses an image reproducing system for displaying a moving image ("The image data to be processed by the embodiment of the present invention is not only of a simple still image but also of a motion picture or animation in a form of successive still images, or the like" in paragraph 81, line 10. "A code sequence ... may preferably be any type of one distributed widely based on a standard like JPEG2000 (ISO/IEC FCD 15444-1), or Motion-JPEG2000 (ISO/IEC FCD 15444-3) ..." in paragraph 84, line 1). The system comprising:

- a reproduction apparatus to display the moving image (as depicted in figure 37 or figure 7, numeral 20 is the reproduction apparatus, "according to the embodiment of the present invention, it is possible to reproduce a smooth motion without frame omission. Furthermore, it becomes also possible to search the contents by viewing a thumbnail motion picture" in paragraph 85, line 5. Numeral 53 is the display);

- a transmission apparatus to store and transmit the compressed data of the moving image to the reproduction apparatus (as depicted in figure 7, numeral 40 is the transmission apparatus which stores, numeral 52, and transmits the compressed data of the moving image, numeral 41, to the reproduction apparatus #20), via a network (as depicted in figure 7, numeral 50 is the communications network. See also figure 37, numeral 50, "FIG. 37 shows a block diagram showing electric connection in the system described with reference to FIG. 7 in one example. This system performs various

Art Unit: 2624

operations ... a predetermined communications interface 213 communicates with the communications network 50, and an operation panel 214 receives various types of operations from a user, which are then connected by a bus 215” in Sano paragraph 108, line 1. Thus, Sano teaches the concept of communication interface such that data can communicate through network);

the reproduction apparatus comprises:

- a display to display the moving image in a window thereof (as depicted in figure 7, numeral 53);

- a reproduction condition receiving unit (as depicted in figure 7, numeral 29 is the reproduction condition receiving unit, “the control unit 29 controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54” in paragraph 105, line 18) to receive a reproduction condition input by a user (figure 7, numeral 54), wherein the reproduction condition indicates a condition for displaying the moving image (as depicted in figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale), the reproduction condition receiving unit to adjust image quality in the reproduction condition in response to an additional input from the user (the reproduction condition receiving unit receives user input, for example the display size, then process data accordingly, “[a]ccording to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed ...” in Sano paragraph 19, line 1. See also, “... the code sequence is sent to a remote device via communications network or

Art Unit: 2624

the like, by thus reducing the code mount beforehand, it becomes possible to effectively reduce the load to be borne by the communications facilities and also to effectively reduce the traffic in the communications network" in Sano paragraph 19, line 10. As depicted in figure 8, original image of size 2048x1536 will be adjusted to the reduced quality 3LL subband with size of 256x192 in response to the user input 54);

- a reproduction condition sending unit (figure 7, numeral 29) to send the reproduction condition to the transmission apparatus via the network (as depicted in figure 7, the reproduction condition #54 received by the receiving unit #29 and then transmitted to transmission apparatus #40);

- a compressed data stream receiving unit (figure 7, numeral 21) to receive the compressed data stream from the transmission apparatus via the network (figure 7, data flow from numerals 41 to 21);

- a decompression unit to decompress the compressed data stream into the moving image (as depicted in figure 7, numerals 24, 25, and 26 are the decompression units used);

wherein the transmission apparatus comprises:

- a memory to store the compressed data (as depicted in figure 7, numeral 52: "The code sequence thus given and processed is obtained by acquiring the code data stored in a storage unit 52 of a data storage device 51 through a communications network 50" in paragraph 105, line 24);

- a reproduction condition receiving unit to receive the reproduction condition sent from the reproduction apparatus via the network (as depicted in figure 7, numeral 29);

- a reconfiguration method determination unit (figure 7, numeral 42) determine a reconfiguration method based on the reproduction condition (as depicted in figure 7, numeral 54 to get reproduction condition), a processing capacity of the reproduction apparatus ("...it is also possible that, when a request is given by a client device via the network, the image provision system detects the capability of the client device for processing code sequences, selects a form of new code sequence which is beforehand created and stored, suitable to the thus-detected capability of the client device ..." in paragraph 97, line 14), wherein the reconfiguration method defines a method for reconfiguration of the compressed data stream (as depicted in figure 7, numeral 42 defines the reconfiguration of the compressed data stream, "a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12, to change the reproduction condition into a reconfiguration method);

- a reconfiguration unit (as depicted in figure 7, numeral 41) to reconfigure the compressed data stored in the memory, without decompressing the compressed data ("... 41 (figure 7) which creates a code sequence ..." in paragraph 103, line 9), based on the reconfiguration method, the reconfigured compressed data stream including fewer frames than a not-yet-reconfigured compressed data stream (as depicted in figure 23, numerals 109 and 112 are display of PDA and cellular phone, respectively, and both



Art Unit: 2624

have much smaller display area compare to that of PC 103. “In the example shown, a code sequence creation device 106 includes two stages prepared for display devices having different display image sizes and thus requiring different image size reduction rates. Specifically, the code sequence for the 2LL subband is created by the code sequence creation unit 107 for the PDA109, while the code sequence for the 3LL subband is created by the code sequence creation device 108 for the cellular phone 112 ...” in paragraph 138, line 1. It is know in the art of data processing that for data of 2LL or 3LL you do not need to transmit frames of 1LL, 1HL, 1LH, or 1HH etc. Thus the compressed data stream will have fewer frames than a not-yet-reconfigured compressed data stream);

- a reconfigured compressed data sending unit to send the reconfigured compressed data stream to the reproduction apparatus via the network (as depicted in figure 7, unit 41 sending compressed data stream to reproduction apparatus #20), at a higher frame rate than the not-yet-reconfigured compressed data stream (as discussed above for the transmission of frames of 2LL or 3LL and these frames are much smaller than 1LL shown in figure 8. Thus more frames, i.e. higher frame rate, can be transmitted compared to the not-yet-reconfigured compressed data stream).

Sano does not explicitly disclose the traffic condition in the communication network. Furthermore, Sano does not disclose the frame rate.

Igarashi, in the same field of endeavor of data transmission (“provide a server and a terminal for excellent transmission/reception of a moving image” at column 1, line 43), discloses a way to change the data size to ensure data can be transferred in

Art Unit: 2624

realtime "...when video image obtained by the camera is transferred in realtime as a moving image, the data amount is reduced in accordance with the degree of traffic congestion on the communication line. This avoids at least the inconvenience that the video image cannot be transferred in "realtime" ... the size of masked area is changed in accordance with the degree of traffic congestion on the communication line. Note that as the masked area is enlarged, the image quality degrades, however, a moving image can be transferred in realtime ..." at column 19, line 23. See also, "since the amount of data transferred for one frame is known immediately before the transfer, the system may be designed to determine the traffic condition by the amount of data and the response time of the acknowledgment. Further, in accordance with circumstances, a dummy file of an appropriate size (known) may be transferred so as to the measure time when an acknowledgment has been received" at column 16, line 15. For example, the test of one dummy file with size 2048X1536 be transferred during one second measured time, i.e. one frame/second, then the reproduction condition in response to this information can transfer lower resolution frame, for example 256x192 of size, at 64 frames per second without jeopardizes the system. The passages in Igarashi column 16, lines 26-44 further teach the frame rate adjustment from 60 frames/sec to 15 frames/sec based on data traffic condition for real time display.

It would have been obvious at the time the invention was made, that one of ordinary skill in the art would have been motivated to include the image reproducing system Sano made with capability to adjust data size and frame rate based on the traffic

Art Unit: 2624

in the communication network as taught by Igarashi, in order to the data “can be transferred in realtime” at column 19, line 46.

Regarding claim 8, the Sano and Igarashi combination teaches an image reproducing system for reproducing a moving image from an encoded data stream encoded in accordance with a coding method (“The image data to be processed by the embodiment of the present invention is not only of a simple still image but also of a motion picture or animation in a form of successive still images, or the like” in Sano paragraph 81, line 10. “A code sequence ... may preferably be any type of one distributed widely based on a standard like JPEG2000 (ISO/IEC FCD 15444-1), or Motion-JPEG2000 (ISO/IEC FCD 15444-3) ...” in Sano paragraph 84, line 1), the encoded data stream being reconfigurable without decoding (“According to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed” in Sano paragraph 19, line 1), comprising:

- a reproduction apparatus to reproduce the moving image (as depicted in Sano figure 37 or figure 7, numeral 20 is the reproduction apparatus, “according to the embodiment of the present invention, it is possible to reproduce a smooth motion without frame omission. Furthermore, it becomes also possible to search the contents by viewing a thumbnail motion picture” in paragraph 85, line 5);

- a transmission apparatus to transmit the encoded data stream to the reproduction apparatus (as depicted in Sano figure 7, numeral 40 is the transmission

Art Unit: 2624

apparatus which transmits encoded data stream from #41 to the reproduction apparatus #20);

- the transmission apparatus being connected to the reproduction apparatus via a network (as depicted in Sano figure 7, the communication channel is the link between transmission apparatus, such as #41 #42, and reproduction apparatus, such as #21 #29; also numerals 30 and 50 are communication networks);

the reproduction apparatus further comprises:

- a reproduction condition receiving unit (Sano figure 7, numeral 29 is the reproduction condition receiving unit, “the control unit 29 controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54” in paragraph 105, line 18) to receive a reproduction condition input by a user (Sano figure 7, numeral 54), the reproduction condition indicating a condition for displaying the moving image (as depicted in Sano figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale) and being transmitted to the transmission apparatus via the network (as depicted in Sano figure 7, the reproduction condition #54 received by the receiving unit #29 and then transmitted to transmission apparatus #40), the reproduction condition receiving unit to adjust image quality and a frame rate in the reproduction condition in response to an additional input from the user for adjusting a balance between the image quality and the frame rate (the reproduction condition receiving unit receives user input, for example the display size, then process data accordingly, “[a]ccording to the present invention, as a given code sequence to be

Art Unit: 2624

decompressed is modified in a various manner before being decompressed ...” in Sano paragraph 19, line 1. See also, “... the code sequence is sent to a remote device via communications network or the like, by thus reducing the code mount beforehand, it becomes possible to effectively reduce the load to be borne by the communications facilities and also to effectively reduce the traffic in the communications network” in Sano paragraph 19, line 10. As depicted in Sano figure 8, original image of size 2048x1536 will be adjusted to the reduced quality 3LL subband with size of 256x192 with appropriate corresponding frame rate. Thus, user input will affect the image resolution, the image quality, and the frame rate of the moving image to be reproduced);

- a reconfiguration method determination unit (as depicted in Sano figure 37, numeral 20 is the reproduction apparatus, numeral 211 is the CPU, “... the CPU 211 performs based on this animation program realizes various functions of the code sequence creation device 40” in paragraph 110, line 5, wherein the CPU211 can be the reconfiguration method determination unit) determine a reconfiguration method based on the reproduction condition, a processing capacity of the production apparatus and traffic in the network (discussed in claim 1 for the bases of reconfiguration method determination), wherein the reconfiguration method defines a method for reconfiguration of the encoded data stream (as depicted in Sano figure 7, numerals 43, 44, 45, and 46 defines the reconfiguration of the encoded data stream, “a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46” in paragraph 103, line 12, to change the reproduction condition into a reconfiguration method);

Art Unit: 2624

the transmission apparatus further comprises:

- a reconfiguration unit (as depicted in Sano figure 7, numeral 41) to reconfigure the encoded data stream to be transmitted to the reproduction apparatus via the network based on the reconfiguration method determined by the determination unit (as depicted in Sano figure 7, "... 41 which creates a code sequence ..." in paragraph 103, line 9. Furthermore, #41 sending the encoded data stream to the reproduction apparatus #20).

Regarding claim 15, the Sano and Igarashi combination teaches an image reproducing system comprising:

- a reproduction apparatus to display the moving image (as depicted in Sano figure 37 or figure 7, numeral 20 is the reproduction apparatus, "according to the embodiment of the present invention, it is possible to reproduce a smooth motion without frame omission. Furthermore, it becomes also possible to search the contents by viewing a thumbnail motion picture" in Sano paragraph 85, line 5. Numeral 53 is the display);

- a transmission apparatus to transmit the reconfigured compressed to the reproduction apparatus (as depicted in Sano figure 7, numeral 40 is the transmission apparatus which stores, numeral 52, and transmits the compressed data of the moving image, numeral 41, to the reproduction apparatus #20), via a network (as depicted in Sano figure 7, numeral 50 is the communications network. See also Sano figure 37, numeral 50, "FIG. 37 shows a block diagram showing electric connection in the system

Art Unit: 2624

described with reference to FIG. 7 in one example. This system performs various operations ... a predetermined communications interface 213 communicates with the communications network 50, and an operation panel 214 receives various types of operations from a user, which are then connected by a bus 215” in Sano paragraph 108, line 1. Thus, Sano teaches the concept of communication interface such that data can communicate through network);

the reproduction apparatus comprises:

- a display to display a moving image in a window on the display (as depicted in Sano figure 7, numeral 53 for display);

- a reproduction condition receiving unit (Sano figure 7, numeral 29, “the control unit 29 controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54” in paragraph 105, line 18) to receive a reproduction condition input by a user (Sano figure 7, numeral 54), wherein the reproduction condition indicates a condition for displaying the moving image (as depicted in Sano figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale), the reproduction condition receiving unit to adjust image quality and a frame rate in the reproduction condition in response to an additional input from the user for adjusting a balance between the image quality and the frame rate (the reproduction condition receiving unit receives user input, for example the display size, then process data accordingly, “[a]ccording to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed ...” in Sano

Art Unit: 2624

paragraph 19, line 1. See also, "... the code sequence is sent to a remote device via communications network or the like, by thus reducing the code mount beforehand, it becomes possible to effectively reduce the load to be borne by the communications facilities and also to effectively reduce the traffic in the communications network" in Sano paragraph 19, line 10. As depicted in Sano figure 8, original image of size 2048x1536 will be adjusted to the reduced quality 3LL subband with size of 256x192 with appropriate corresponding frame rate. Thus, user input will affect the image resolution, the image quality, and the frame rate of the moving image to be reproduced);

- a reconfiguration method determination unit (as depicted in Sano figure 37, numeral 20 is the reproduction apparatus, numeral 211 is the CPU, "... the CPU 211 performs based on this animation program realizes various functions of the code sequence creation device 40" in paragraph 110, line 5 wherein the CPU211 can be the reconfiguration method determination unit) determine a reconfiguration method based on the reproduction condition, a processing capacity of the production apparatus and traffic in the network (discussed in claim 1 for the bases of reconfiguration method determination), wherein the reconfiguration method defines a method for reconfiguration of the compressed data stream (as depicted in Sano figure 7, numerals 43, 44, 45, and 46 defines the reconfiguration of the compressed data stream, "a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46" in paragraph 103, line 12, to change the reproduction condition into a reconfiguration method);



Art Unit: 2624

- a reconfiguration method sending unit to send the reconfiguration method to the transmission apparatus via the network(as depicted in Sano figure 37, numeral 213 the communications interface is the sending unit to send the reconfiguration method to transmission apparatus);

- a reconfiguration compressed data stream receiving unit (Sano figure 7, numeral 21) to receive the reconfigured compressed data stream from the transmission apparatus via a network (Sano figure 7, data flow from numerals 41 to 21);

- a decompression unit to decompress the reconfigured compressed data stream and obtain moving image of the reconfigured compressed data stream (as depicted in Sano figure 7, numerals 24, 25, and 26 are the decompression units used);

the transmission apparatus comprising:

- a memory to store compressed data stream (as depicted in Sano figure 7, numeral 52, "The code sequence thus given and processed is obtained by acquiring the code data stored in a storage unit 52 of a data storage device 51 through a communications network 50" in paragraph 105, line 24);

- a reconfiguration method receiving unit to receive the reconfiguration method sent from the reproduction apparatus via the network (as depicted in Sano figure 7, numeral 29 to receive the reconfiguration method sent from the reproduction apparatus #20);

- a reconfiguration unit (as depicted in Sano figure7, numeral 41) to generate the reconfigured compressed data from the compressed data stream stored in the memory,

Art Unit: 2624

without decompressing the compressed data stream), in response to the reconfiguration method ("... 41 (*figure 7*) which creates a code sequence ..." in paragraph 103, line 9);

- a reconfigured compressed data stream sending unit to send the reconfigured compressed data to the reproduction apparatus via the network (as depicted in Sano figure 7, numeral 41 sending the compressed data to reproduction apparatus #20).

Regarding claims 2, 9, and 16, the reproduction condition received by the reproduction condition receiving unit includes at least one of a display size, a display range, the image quality, a color component, and the frame rate (as depicted in Sano figure 7, numeral 29 is the reproduction condition receiving unit which receives input conditions, numeral 54, including display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale).

Regarding claims 3, 10, and 17, the reproduction condition receiving unit (Sano figure 7, numeral 29) adjusts the display size included in the reproduction condition in response to the user input for changing a window size in which the moving image is displayed (as depicted in Sano figure 8, the image size #61 will be adjusted to numeral 64 in response to the user's operation for changing a window size to #63).

Regarding claims 4, 11, and 18, the reproduction condition receiving unit (Sano figure 7, numeral 29) changes the display size included in the reproduction condition in response to the user input for selecting a window in which the moving image is

Art Unit: 2624

displayed (as depicted in Sano figure 8, the image can be displayed with various reduction rate in response to various display size. As discussed in paragraphs 113 and 114, a displayed image can change to a new display size once selected).

Regarding claims 5, 12, and 19, the reproduction condition receiving unit adjusts the display range included in the reproduction condition in response to the user input for panning and tilting (as depicted in Sano figure 7, numeral 54 which allows user to input specified area and perform animation. Thus, allows the moving range to be displayed from right to left, i.e. panning, and up and down, i.e. tilting).

Regarding claims 6, 13, and 20, the reproduction condition receiving unit adjusts the display range included in the reproduction condition in response to the user input for zooming (as depicted in Sano figure 7, numeral 54 which allows user to input specified area and perform animation. Thus, allows the moving range to be displayed expanding and reducing, i.e. zooming).

Regarding claim 23, a reproduction apparatus comprising:

- a reproduction condition receiving unit (Sano figure 7, numeral 29, “the control unit 29 controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54” in paragraph 105, line 18) to receive a reproduction condition input by a user (Sano figure 7, numeral 54), the reproduction condition indicating a condition for displaying the moving image (as

Art Unit: 2624

depicted in Sano figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale) and being transmitted to the transmission apparatus via a network (as depicted in Sano figure 7, the reproduction condition #54 received by the receiving unit #29 and then transmitted to transmission apparatus #40), the reproduction condition receiving unit to adjust image quality and a frame rate in the reproduction condition in response to an additional input from the user for adjusting a balance between the image quality and the frame rate (the reproduction condition receiving unit receives user input, for example the display size, then process data accordingly, “[a]ccording to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed ...” in Sano paragraph 19, line 1. See also, “... the code sequence is sent to a remote device via communications network or the like, by thus reducing the code mount beforehand, it becomes possible to effectively reduce the load to be borne by the communications facilities and also to effectively reduce the traffic in the communications network” in Sano paragraph 19, line 10. As depicted in Sano figure 8, original image of size 2048x1536 will be adjusted to the reduced quality 3LL subband with size of 256x192 with appropriate corresponding frame rate. Thus, user input will affect the image resolution, the image quality, and the frame rate of the moving image to be reproduced);

- a reconfiguration method determination unit (as depicted in Sano figure 37, numeral 20 is the reproduction apparatus, numeral 211 is the CPU, “... the CPU 211 performs based on this animation program realizes various functions of the code

Art Unit: 2624

sequence creation device 40” in Sano paragraph 110, line 5 where the CPU211 can be the reconfiguration method determination unit) to determine a reconfiguration method based on the reproduction condition, a processing capacity of the production apparatus and traffic in the network(discussed in claim 1 for the bases of reconfiguration method determination), wherein the reconfiguration method defines a method for reconfiguration of the encoded data stream (as depicted in Sano figure 7, numerals 43, 44, 45, and 46 defines the reconfiguration of the encoded data stream, “a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46” in paragraph 103, line 12, to change the reproduction condition into a reconfiguration method), and wherein the reproduction apparatus (as depicted in Sano figure 7, numeral 20 or figure 37 numerals 20) transmits the reconfiguration method (Sano figure 7, numerals 43, 44, 45, and 46) determined by the reconfiguration method determination unit (Sano figure 37, numeral 211) to the transmission apparatus via the network (Sano figure 7, numeral 40 wherein Sano teaches the concept of communication interface as shown in figure 37, numeral 213 to communicate data through network), and receives an encoded data stream (Sano figure 7, from numeral 41 to numeral 21) reconfigured by the transmitted reconfiguration method (Sano figure 7, numerals 43, 44, 45, and 46) from the transmission apparatus via the network (Sano figure 7, numeral 40).

Regarding claim 24, a transmission apparatus for transmitting an encoded data stream compressed in accordance with JPEG 2000 to a reproduction apparatus connected thereto via a network, comprising:

- a reconfiguration method determination unit (as discussed in claim 1 that Sano figure 7, numeral 42 is the determine unit) to determine a reconfiguration method based on the reproduction condition, a processing capacity of the production apparatus and traffic in the network (discussed in claim 1 for the bases of reconfiguration method determination), wherein the reproduction condition indicating a condition for displaying the moving image (as depicted in Sano figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale). and further wherein the reconfiguration method defines a method for reconfiguration of the encoded data stream (as depicted in Sano figure 7, the encoded data stream is reconfigured by the reconfiguration method #43, #44, #45, and #46 and the reconfiguration method is based on the reproduction condition #54 set by the setting unit #29) and

- a reconfiguration unit (Sano figure 7, numeral 41) to reconfigure the encoded data stream (as depicted in Sano figure 7, numeral 41, "... 41 which creates a code sequence ..." in paragraph 103, line 9), to be transmitted to the reproduction apparatus via the network based on the reconfiguration method determined by the determination unit (as depicted in figure 7, unit 41 sending compressed data to reproduction apparatus #20), the reconfiguration unit to adjust image quality and a frame rate in the reproduction condition in response to a user input for adjusting a balance setting

Art Unit: 2624

between the image quality and the frame rate (the reconfiguration unit, in response to user input for example the display size, will then process data accordingly, “[a]ccording to the present invention, as a given code sequence to be decompressed is modified in a various manner before being decompressed ...” in Sano paragraph 19, line 1. See also, “... the code sequence is sent to a remote device via communications network or the like, by thus reducing the code mount beforehand, it becomes possible to effectively reduce the load to be borne by the communications facilities and also to effectively reduce the traffic in the communications network” in Sano paragraph 19, line 10. As depicted in Sano figure 8, original image of size 2048x1536 will be adjusted to the reduced quality 3LL subband with size of 256x192 with appropriate corresponding frame rate. Thus, in response to user input, the appropriate image resolution, the image quality, and the frame rate of the moving image can be reproduced).

Regarding claim 25, a method of reproducing a moving image encoded into an encoded data stream in accordance with JPEG 2000, comprising:

- receiving a reproduction condition input by a user, the reproduction condition indicating a condition for displaying the moving image (as depicted in Sano figure 7, numeral 54 as an user input reproduction condition which includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale);
- determine a reconfiguration method based on the reproduction condition, a processing capacity of the production apparatus and traffic in a network (discussed in

Art Unit: 2624

claim 1 for the bases of reconfiguration method determination), and an additional input from the user for adjusting a balance setting between the image quality and the frame rate (as depicted in Sano figure 7, numeral 54 for user input such as full display, thumbnail etc. As depicted in figure 8 and discussed in claim 1, user input can determine the image resolution, image quality and the frame rate of the moving image to be reproduced), wherein the reconfiguration method defines a method for reconfiguration of the encoded data stream (as depicted in Sano figure 7, numeral 42 defines the reconfiguration of the encoded data stream, “a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46” in paragraph 103, line 12, to change the reproduction condition into a reconfiguration method);

- reconfiguring the encoded data stream (as depicted in Sano figure 7, the reconfiguration unit 41: “... 41 which creates a code sequence ...” in paragraph 103, line 9) based on the determined reconfiguration method (Sano figure 7, numerals 43, 44, 45, and 46 are reconfiguration methods); and

- reproducing the moving image from the reconfigured encoded data stream (as depicted in Sano figure 7, the reconfigured encoded data stream transmitted from #41 to #21 then decoded #24 and then displayed #53. “[A]ccording to the embodiment of the present invention, it is possible to reproduce a smooth motion without frame omission. Furthermore, it becomes also possible to search the contents by viewing a thumbnail motion picture” in Sano paragraph 85, line 5).



Regarding claim 26, the reproduction condition includes at least one of a display size, a display range, the image quality, a color component, and the frame rate (as depicted in Sano figure 7, reproduction condition 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale).

Regarding claim 27, the display size included in the reproduction condition is adjusted in response to the user input for changing a window size in which the moving image is displayed (discussed in claim 3).

Regarding claim 28, the display size included in the reproduction condition is changed in response to the user input for selecting a window in which the moving image is displayed (as depicted in Sano figure 8, the image can be displayed with various reduction rate in response to various display size. As discussed in Sano paragraphs 113 and 114, a displayed image can change to a new display size once selected).

Regarding claim 29, the display range included in the reproduction condition is changed in response to the user input for panning and tilting (as depicted in Sano figure 7, numeral 54 which allows user to input specified area and perform animation. Thus, allows the moving range to be displayed from right to left, i.e. panning, and up and down, i.e. tilting).

Regarding claim 30, the display range included in the reproduction condition is adjusted in response to the user input for zooming (as depicted in Sano figure 7, numeral 54 which allows user to input specified area and perform animation. Thus, allows the moving range to be displayed expanding and reducing, i.e. zooming).

Regarding claim 32, the Sano and Igarashi combination teaches an image reproducing system having one or more computer- readable storage medium storing instructions which, when executed by a computer, cause the computer to perform a method of reproducing a moving image encoded into an encoded data stream in accordance with JPEG 2000 (discussed in claim 1. See also “the present invention can be embodied by means of one or a plurality of general-purpose computer, i.e., a personal computer, or the like, by installing one or a plurality of software programs thereinto for causing the computer to execute the various functions described above ...” in Sano paragraph 101, line 1) by:

- displaying the moving image (Sano figure 7, numeral 53);
- transmitting a reconfigured compressed data stream to a reproduction apparatus (Sano figure 7, data flow from numerals 41 to 21) via a network (as depicted in Sano figure 7, numeral 50 is the communications network);

wherein displaying the moving image comprises:

- receiving a reproduction condition input by a user (Sano figure 7, numeral 29, “the control unit 29 controls the code sequence creation device 40 according to the mode specified by the user through the display mode specification unit 54” in paragraph

Art Unit: 2624

105, line 18), wherein the reproduction condition indicates a condition for displaying the moving image (as depicted in figure 7, numeral 54 includes display size such as full display or thumbnail, display range such as specified area, and color component such as grayscale);

- determine a reconfiguration method based on the reproduction condition, a processing capacity of the production apparatus, traffic in the network (discussed in claim 1 for the bases of reconfiguration method determination), and an additional input from the user for adjusting a balance setting between the image quality and the frame rate (as depicted in Sano figure 7, numeral 54 for user input such as full display, thumbnail etc. As depicted in figure 8 and discussed in claim 1, user input can determine the image resolution, image quality and the frame rate of the moving image to be reproduced), wherein the reconfiguration method defines a method for reconfiguration of the compressed data stream (as depicted in Sano figure 7, numeral 42 defines the reconfiguration of the compressed data stream, “a level number calculation unit 43, an area calculation unit 44, a component calculation unit 45, and an operation order calculation unit 46” in paragraph 103, line 12, to change the reproduction condition into a reconfiguration method);

- sending the reconfiguration method to a transmission apparatus via a network (as depicted in Sano figure 37, numeral 213 the communications interface will send the reconfiguration method to transmission apparatus);

- receiving the reconfigured compressed data stream from the transmission apparatus via the network (Sano figure 7, data flow from numerals 41 to 21);

- decompressing the reconfigured compressed data stream and obtaining a moving image of the reconfigured compressed data stream (as depicted in Sano figure 7, numerals 24, 25, and 26 are the decompression units used);  
wherein transmitting the reconfigured compress data stream comprises:

- storing the compressed data stream (as depicted in Sano figure 7, numeral 52, "The code sequence thus given and processed is obtained by acquiring the code data stored in a storage unit 52 of a data storage device 51 through a communications network 50" in Sano paragraph 105, line 24);

- receiving the reconfiguration method sent from the reproduction apparatus (as depicted in Sano figure 7, numeral 29 to receive the reconfiguration method sent from the reproduction apparatus #20);

- generating the reconfigured compressed data from the compressed data stream, without decompressing the compressed data stream, in response to the reconfiguration method (as depicted in Sano figure 7, numeral 41, "... 41 which creates a code sequence ..." in paragraph 103, line 9);

- sending the reconfigured compressed data to the reproduction apparatus via the network (as depicted in Sano figure 7, numeral 41 sending the compressed data to reproduction apparatus #20. Sano teaches the concept of communication interface as shown in figure 37, numeral 213 to communicate data through network).

### ***Response to Arguments***

#### **5. Summary of Applicant's Remark:**

“Sano does not teach or suggest all the limitations of the claims, including “the reproduction condition receiving unit to adjust image quality and a frame rate in the reproduction condition in response to an additional input from the user for adjusting a balance between the image quality and the frame rate” at response page 11, line 8.

Examiner's Response:

Reference to Sano figure 7, user input 54 for example FULL DISPLAY or THUMBNAIL, the reproduction condition receiving unit 29 will adjust image as shown in figure 8 with appropriate image resolution and image quality. Igarashi further suggests a transfer time test with a dummy file of known size as an indicator to adjust the balance between frame rate and image quality. Refer to the rejections above for detailed discussion.

6. Summary of Applicant's Remark:

“Sano is silent regarding a compressed data stream having fewer frames when reconfigured than when not reconfigured. Sano is also silent with respect to sending a reconfigured compressed data stream at a higher frame rate than a not reconfigured compressed data stream” at response page 11, line 24.

Examiner's Response:

As illustrated in Sano figure 23, “In the example shown, a code sequence creation device 106 includes two stages prepared for display devices having different display image sizes and thus requiring different image size reduction rates. Specifically, the code sequence for the 2LL subband is created by the code sequence creation unit

Art Unit: 2624

107 for the PDA109, while the code sequence for the 3LL subband is created by the code sequence creation device 108 for the cellular phone 112 ...” in paragraph 138, line 1. It is known in the art of data processing that for data of 2LL or 3LL you do not need to transmit frames of 1LL, 1HL, 1LH, or 1HH etc. Thus the compressed data stream will have fewer frames than a not-yet-reconfigured compressed data stream. And shown in figure 8, the frame size of 2LL or 3LL is much smaller than that of 1LL. Thus more frames, i.e. higher frame rate, can be transmitted compared to the not-yet-reconfigured compressed data stream. Refer to the rejections above for detailed discussion.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eueng-nan Yeh whose telephone number is 571-270-1586. The examiner can normally be reached on Monday-Friday 8AM-4:30PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wenpeng Chen can be reached on 571-272-7431. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2624

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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3/12/09